



Additions to “The Cypriniformes Tree of Confusion”

RALF BRITZ¹ & KEVIN W. CONWAY²

¹Department of Zoology, Natural History Museum, Cromwell Road, London, SW7 5BD, UK E-mail: R.Britz@nhm.ac.uk

²Department of Wildlife and Fisheries Sciences, Texas A & M University, 210 Nagle Hall, 2258 TAMUS, College Station, TX 77843, U.S.A E-mail: kevin.conway@tamu.edu

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Since the acceptance of our paper (Britz & Conway 2011), two publications have appeared that have relevance to the topic discussed and need to be mentioned. Mabee et al. (2011) is the first morphological phylogenetic analysis produced by the Cypriniformes Tree of Life project and covers 62 characters from gill arch, and hyoid osteology in 53 cypriniform taxa. Tang et al.’s (2011) molecular analysis of the cyprinid subfamily Gobioninae also included the three miniature taxa *Sundadanio*, *Paedocypris* and *Danionella* and was based on two mitochondrial and two nuclear genes. Their parsimony analysis recovered all three taxa in the cyprinid subfamily Danioninae, with *Paedocypris* and *Danionella* as sister groups, with this clade forming the sister group to a clade comprising *Sundadanio* and *Esomus*. Their maximum likelihood analysis confirmed their placement in danionines and found *Paedocypris* as the sister group to *Sundadanio*, and *Danionella* as the sister group of *Danio rerio*, *Devario auropurpureus* and *Microrasbora rubescens*. Their partitioned Bayesian analysis, however, recovered *Sundadanio* as the sister group of *Leptobarbus*, *Danionella* as the sister group to *Danio*, *Devario* and *Microrasbora*, and *Paedocypris* as the sister group to all other Cypriniformes, as did Mayden & Chen (2010). This remarkable difference in the position of the three taxa between the different trees was not even mentioned or discussed except in the brief remark relating only to *Paedocypris* (p. 11): “The Bayesian results agree on a monophyletic Cypriniformes, but recover a putative cyprinid (*Paedocypris*) as the sister group to all other cypriniform fishes.”

References

- Britz, R. & Conway, K.W. (2011) The Cypriniformes Tree of Confusion. *Zootaxa*, 2946, 71–76.
- Mabee, P.M., Grey, E., Arratia, G., Bogutskaya, N., Boron, A., † Coburn, M., Conway, K.W., He, S., Naseka, A., Rios, N., Simons, A., Szlachciak, J. & Wang, X. (2011) Gill arch and hyoid arch diversity and cypriniform phylogeny: Distributed integration of morphology and web-based tools. *Zootaxa*, 2877, 1–40.
- Tang, K.L., Agnew, M.K., Chen, W.-J., Hirt, M.V., Raley, M.E., Sado, T., Schneider, L.M., Yang, L., Bart, H.L., He, S., Liu, H., Miya, M., Saitoh, K., Simons, A.M., Wood, R.M. & Mayden, R.L. (2011 in press) Phylogeny of the gudgeons (Teleostei: Cyprinidae: Gobioninae). *Molecular Phylogenetics and Evolution*. *Molecular Phylogenetics and Evolution*, uncorrected proofs accessed on-line on 27 June 2011.